THE FATE OF INJECTED TRIGGER FINGERS

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SUMMARY

Patients who were scheduled for surgical release of their trigger fingers underwent an injection of the involved tendon sheath prior to surgery. In thirty-six patients the injection of methylene blue was undertaken in a proximal-distal direction and in forty-three the direction of the injection was reversed. The success rate of the injections was 61 per cent. in the proximal distal group and 37 per cent in the second group. There was no significant statistical difference with regard to age, but duration of the disorder and mode of injection regarding the different fingers did have statistical significance.

Stenosing tendo-vaginitis is caused by incompatibility between the tendon and its sheath, which interferes with the normal smooth gliding of the tendon within its sheath. This sheath, which comprises a double walled hollow cylinder, is held in place by annular and cruciform fibres which vary in length, width and thickness. Four discrete annular bands and three cruciform bands have been identified in the literature. (Doyle, 1974) The first annular band gains two thirds of its origin from the volar plate of the metacarpophalangeal joint and this band, situated 5mm proximal to the metacarpophalangeal joint, may at times be hypertrophied to two or three times its normal size. (Fahey, 1954)

One of the conservative methods of treatment of trigger fingers is the injection of steroids into the tendon sheath. (Clark 1973) Our objective was to evaluate the efficacy of this injection method and the possibility of injecting the steroids into the tendon sheath itself, where it is believed to have its therapeutic effect.

METHOD

Seventy-seven patients (age range 2-72 years—average 60 years) who were scheduled for surgical intervention to release their trigger fingers, received an injection of 0.5ml of methylene blue percutaneously into their tendon sheaths. At surgery specific notice was taken to check whether the methylene blue did indeed enter the tendon sheath or not. Other factors such as age, duration of the symptoms before surgery and in which direction the injection took place were also registered.

RESULTS

In thirty-eight patients (49%) methylene blue was found inside the tendon sheath while in thirty-nine (51%) the methylene blue was within the surrounding tissue. Patients were arbitrarily divided into two groups: those under and those over sixty years of age. The results are shown in Fig. 1.

The percentage rate of successful injections was correlated against the duration of symptoms, which was sub-divided arbitrarily into three groups as follows:— a) 0 to three months; b) four to six months and c) over seven months. The results are shown in Fig. 2.

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Fig. 1. Patients divided thus: below 60 years—over 60 years. Positive cases showed methylene blue within tendon sheath.

Fig. 2 Three groups—Duration of symptoms in months. Positive results—successful injections producing relief.

Fig. 3 Positive = Successful results. Direction of injection proximal or distal indicated.

Fig. 1

Fig. 2

Fig. 3

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The Hand—Volume 15 No. 2 1983

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Needle direction was distinguished by whether the injection was centrifugal or centripetal i.e. distal to proximal or vice versa and whether a difference existed in relation to which finger was being injected. The results are shown in Fig. 3.

**DISCUSSION**

To the best of our knowledge this form of injection has not been previously discussed in the literature.

As can be seen from the results the overall success rate of our percutaneous injections is 50 per cent with the success rate being only slightly higher than 50 per cent if the thumb was involved.

Fig. 1. indicates that age is of no statistical significance while Fig. 2. indicates that the more chronic the disease the lower the chance of a successful injection. Fig. 3. is of particular significance for it clearly shows that when injecting in a proximal distal (centrifugal) direction, the success rate is markedly higher for fingers 2-5. With the thumb, however, a distal proximal mode of injection might be slightly more advantageous.

**CONCLUSION**

In our experience an attempt to inject methylene blue percutaneously into the tendon sheath in patients with trigger fingers was successful in only 50 per cent of cases. The patients’ age was of no significance but the chronicity of the disease did decrease the success rate. When attempts are made to inject the material into the tendon sheath, the injection should be carried out in a proximal to distal direction for the four ulnar fingers and distoproximally for the thumb.

The failure of the steroid injections cannot always necessarily be attributed to their ineffectiveness, but may very well result from the fact that they are misplaced.

**REFERENCES**


